FIVE-YEAR REVIEW FINDINGS
ENVIRONMENTAL RESTORATION PROGRAM
ELMENDORF AIR FORCE BASE, ALASKA

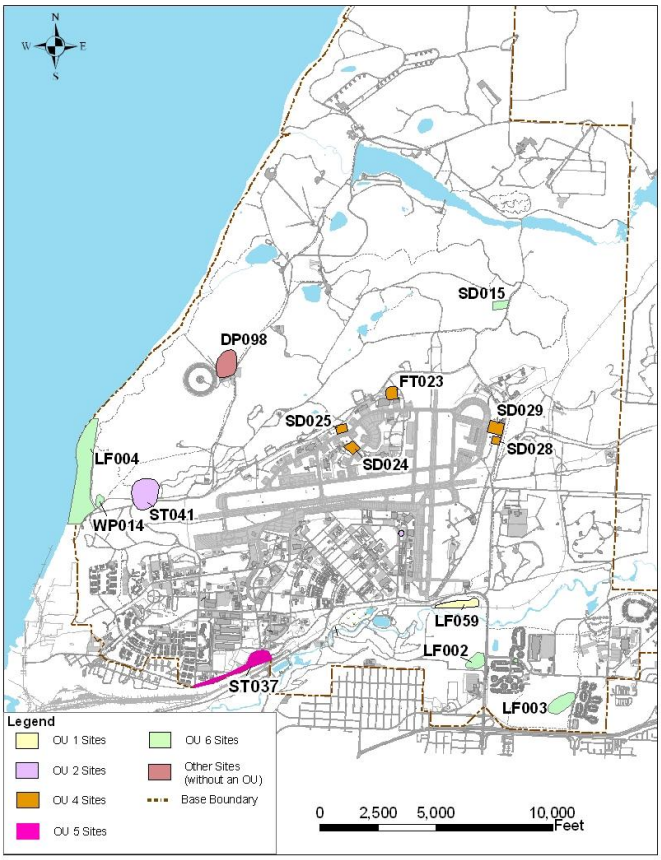
April 2009

The U.S. Air Force, lead agency for environmental cleanup at Elmendorf Air Force Base, Alaska, has completed the third five-year review of its contaminated sites under the Environmental Restoration Program and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The five-year review is a detailed evaluation of environmental cleanup work. This review found that ongoing cleanup activities are protective of human health and the environment. The U.S. Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC) participated in and agreed with the conclusions of the review.

Findings

This five-year review addressed cleanup activities at Operable Units (OUs) 1, 2, 4, 5, and 6 and DP98. OU3 was documented as complete in the 1998 five-year review. This review found:

- All remedies continue to be in compliance with requirements of the records of decision (RODs) as updated by explanations of significant differences and memoranda to the site files. The remedies were constructed and, in general, are operating and functioning as designed. At OUs 2, 4, 5, and 6, natural attenuation is reducing contaminant concentrations in groundwater. However, at some source areas, natural attenuation is expected to take longer to achieve cleanup goals than was predicted in the RODs.
- Groundwater at SD28 in OU4 meets cleanup goals, and groundwater at LF02 in OU6 appears to meet cleanup levels. Shallow soils in OU4 and soils at SD15 in OU6 also meet cleanup levels.
- For the source areas within OUs 1, 2, 4, 5, and 6 that have not yet met groundwater cleanup levels, the remedies are expected to be protective of human health and the environment upon attainment of groundwater cleanup levels. The exposure pathways that could result in unacceptable risks are being controlled with land use controls (LUCs).
- The remedy at DP98 is expected to be protective of human health and the environment upon completion. All remedy components are now in place, and the remedy will be fully implemented as soon as the remedy components are documented in a Remedial Action report. In the interim, exposure pathways that could result in unacceptable risks are being controlled with LUCs.



Operable Unit Summaries

OU1: The remedy included groundwater monitoring and LUCs. Concentrations of trichloroethene (TCE) in groundwater at LF59 are decreasing and are expected to reach cleanup levels by 2018.

OU2: The remedy included source removal (completed in 1996), operation of a groundwater treatment system (completed in 1999), natural attenuation, and LUCs. Contaminants in groundwater are not migrating and concentrations are decreasing. No recoverable free product has been detected in groundwater wells since 2003. Surface water at the point-of-compliance in the wetlands north of the site met cleanup levels in 2008.

OU4: The remedy included bioventing of deep soils at three source areas, natural attenuation of contaminants in groundwater and shallow soils, and LUCs. Contaminant concentrations in deep soils meet cleanup levels except at FT23, where bioventing continues. Shallow soils meet cleanup levels throughout OU4. SS10 met cleanup levels for all contaminants of concern and was closed in 2006. Contaminant concentrations meet cleanup levels in SD28 groundwater and are

trending toward cleanup levels at most of the groundwater wells in OU4.

OU5: The remedy included natural attenuation and LUCs for groundwater contaminants, groundwater monitoring, and collection and treatment of contaminated seeps in constructed and natural wetlands. The remedies have prevented contaminant migration. Effluent from constructed and natural wetlands meets all cleanup levels, and contaminants have not been detected at the point-of-compliance, Ship Creek. TCE concentrations currently meet cleanup levels at three seeps that were previously contaminated. Natural attenuation of TCE in groundwater is occurring, but is taking longer than originally predicted in some areas of OU5.

OU6: The remedies included natural attenuation of groundwater contaminants, high-vacuum extraction treatment of groundwater and soil at SD15 (completed in 2007), annual removal of landfill debris at the base of the bluff below LF04 North, free product recovery at WP14 and LF04 South, and LUCs. Cleanup levels have been met for soil at SD15 and appear to be met for groundwater at LF02. The quantity of debris collected below LF04 North has decreased over time, which may indicate a decrease in erosion. No recoverable free product has been detected in WP14 or LF04 South wells since 2005. Contaminant concentrations in groundwater meet cleanup levels in many wells and are decreasing in most other wells.

DP98: The remedy includes excavation and off-site disposal of contaminated soil; treatability study, groundwater modeling, monitored natural attenuation for groundwater; and LUCs. The final component of the remedy was implemented in October 2008.

Future Reviews

Future reviews will be conducted at least once every five years or until cleanup levels are met. The next review will be completed in December 2013. No future reviews are planned for SS10.

Glossary

Land Use Controls (LUCs): Administrative or legal mechanisms used to protect human health and the environment from residual contamination.

Natural Attenuation: Natural physical, chemical and biological processes that break down contaminants in soil and water.

Operable Units (OU): Sites grouped by similar contaminants of concern or regions of the base.

Record of Decision (ROD): Public document for a site that explains which cleanup alternatives will be used.

Trichloroethene (TCE): A liquid chemical contaminant often used as a solvent for removing grease from metal or as a dry cleaning agent.

For More Information

The complete five-year review document and other supporting documents are located at the information repository.

Alaska Resources Library & Information Services
University of Alaska, Anchorage Consortium Library
3211 Providence Drive, Anchorage, AK 99508
Phone: (907) 786-1871

Or contact**: Ms. Renee Wright**
Environmental Community Relations Coordinator
e-mail: renee.wright@elmendorf.af.mil
3rd Wing Public Affairs (3 WG/PA)
10480 22nd Street Room 118
Elmendorf AFB, AK 99506
Phone: (907) 552-5756

ELMENDORF AIR FORCE BASE
3 WG/PA
10480 22nd Street Room 118
Elmendorf AFB, AK 99506-2500

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